METALS ANALYSIS OF WATER

Metals are typically analyzed in the lab by ICP/MS. A full metal scan on a sample can provide concentrations for over 50 different metals. However, it is important to request the correct "type" of metal analysis to ensure you are meeting regulatory requirements. Below is a flow chart depicting the four common "types" of metal analyses you have available to you (for a water matrix). Please be sure to indicate on your Chain which type of metals analysis you require and whether you have field filtered your sample:

TYPES OF METALS ANALYSIS:	PROCESS IN THE LAB:	RUN ON INSTRUMENT:
REGULAR	Add HNO ₃ if sample wasn't preserved in the field No treatment	
DISSOLVED (LAB FILTERED)	Filter at lab with 45 micron filter	ANALYZE
DISSOLVED (FIELD FILTERED) (Filtered in field with 45 micron filter)	Add HNO ₃ if sample wasn't preserved in the field	ANA
TOTAL	Add HNO ₃ if sample wasn't preserved in the field Digest sample with strong acid and "cook" on hot block	

REGULAR METALS - required for regulated drinking water samples (Reg. 170/03, 319)

DISSOLVED (LAB FILTERED) METALS – the lab filters the sample; generally required for ground water (to remove sediment prior to analysis and preservation) when requested by the client on the Chain of Custody; preservative can only be added at lab after filtration

DISSOLVED (FIELD FILTERED) METALS – Sampler filters the sample in the field prior to sample preservation; generally required for ground water (to remove sediment prior to analysis and preservation); required for O. Reg. 153/04* submissions

TOTAL METALS - generally required for surface water; required for PWQO and MISA submissions

*if you are unable to field filter when taking a groundwater sample under O. Reg. 153, you can submit the sample to the lab unfiltered and unpreserved, but the lab **MUST** filter and preserve the sample within 24 hours of sampling.

